

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF KANSAS**

<b>IN RE: CESSNA 208 SERIES AIRCRAFT</b>	)	
<b>PRODUCTS LIABILITY LITIGATION</b>	)	<b>MDL No: 1721</b>
	)	
	)	<b>Case No: 05-md-1721-KHV</b>
<b>(This Document Relates To All Cases)</b>	)	
_____	)	

**MEMORANDUM AND ORDER**

Plaintiffs have filed suit against Cessna Aircraft Company and Goodrich Corporation seeking damages for personal injuries and wrongful death arising from various air disasters involving the Cessna 208 Series (“C208”) aircraft.<sup>1</sup> The Judicial Panel on Multidistrict Litigation (“MDL Panel”) transferred the various actions to this Court for consolidated pretrial proceedings. This matter is before the Court on Cessna Aircraft Company’s Motion In Limine To Exclude The Expert Testimony of Douglas R. Herlihy On The Subjects Of Dissimilar Aircraft Accidents And Aircraft Certification (Doc. #698) filed January 26, 2009; Cessna Aircraft Company’s Motion In Limine To Exclude The Expert Testimony Of Ronald Stearman (Doc. #724) filed January 30, 2009; Cessna Aircraft Company’s Motion In Limine To Exclude Testimony Of William R. Twa, Jr. (Doc. #674) filed January 6, 2009; and Cessna Aircraft Company’s Motion In Limine To Exclude The Expert Testimony of William J. Rieke On The Subjects Of Aircraft Certification For Flight Into Known

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<sup>1</sup> The lawsuits which are currently part of this MDL involve the model C208B which the Federal Aviation Administration (“FAA”) certified in 1986. The C208 series includes the C208B and earlier models C208 (introduced in 1984) and C208A (introduced shortly after the C208).

When the parties filed the instant motions, the MDL included six air disasters involving the C208B: in Moscow, Russia, near San Angelo, Texas, near Naches, Washington, near Parks, Arizona, near Bellevue, Idaho and in Winnipeg, Manitoba. On June 8, 2009, the MDL Panel transferred a case arising from a seventh air disaster in Alliance, Nebraska. See Transfer Order (Doc. #1) filed in O’Brien v. Cessna Aircraft Co., D. Kan. No. 09-2352. In addition, the MDL Panel recently proposed to transfer a case arising from an eighth air disaster involving the C208B near Columbus, Ohio. See Friedman v. Castle Aviation, S.D. Ohio No. 2:09-749.

### **Legal Standards**

Under Fed. R. Evid. 702, the trial court must act as a gatekeeper and determine at the outset, pursuant to Fed. R. Evid. 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 592 (1993). This entails a preliminary assessment whether the reasoning or methodology underlying the testimony is scientifically valid and whether that reasoning or methodology properly can be applied to the facts in issue. Id.

The Court has broad discretion in deciding whether to admit expert testimony. See Kieffer v. Weston Lands, Inc., 90 F.3d 1496, 1499 (10th Cir. 1996). Rule 702 provides that an expert may testify to scientific, technical or other specialized knowledge if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods and (3) the witness has applied the principles and methods reliably to the facts of the case. The touchstone

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<sup>2</sup> Plaintiffs request oral argument and an evidentiary hearing on three of the motions. See MDL Plaintiffs' Motion For Oral Argument And Evidentiary Hearing On Motion In Limine To Exclude Expert Testimony Of William J. Rieke (Doc. #869) filed May 22, 2009; MDL Plaintiffs' Motion For Oral Argument And Evidentiary Hearing On Motion In Limine To Exclude Expert Testimony Of Douglas R. Herlihy (Doc. #871) filed May 26, 2009 and MDL Plaintiffs' Motion For Oral Argument And Evidentiary Hearing On Motion In Limine To Exclude Expert Testimony Of William R. Twa (Doc. #873) filed May 26, 2009. The Court finds that oral argument will not materially assist in the disposition of these motions. The Court also finds that an evidentiary hearing on the motions in limine would not be helpful. To fulfill its gatekeeper role, the Court commonly holds a Daubert hearing, but such a process is not specifically mandated. Goebel v. Denver & Rio Grande W. R.R. Co., 215 F.3d 1083, 1087 (10th Cir. 2000); see United States v. Charley, 189 F.3d 1251, 1266 (10th Cir. 1999) (district court granted great latitude in deciding whether to hold formal hearing), cert. denied, 528 U.S. 1098 (2000); United States v. Call, 129 F.3d 1402, 1405 (10th Cir. 1997) (Daubert does not require hearing). Here, the experts' methodology does not involve new scientific theory or new and novel testing methodologies; their reports are self-explanatory and the parties have filed comprehensive and thorough briefs. Accordingly, the Court overrules plaintiffs' motions for oral argument and an evidentiary hearing.

of Rule 702 is the helpfulness of expert testimony, a condition that goes primarily to relevance. See BioCore, Inc. v. Khosrowshahi, 183 F.R.D. 695, 699 (D. Kan. 1998) (quoting Miller v. Heaven, 922 F. Supp. 495, 501 (D. Kan. 1996)). Any doubts should be resolved in favor of admissibility. See id. The purpose of the Daubert inquiry is always “to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” Kumho Tire Co. v. Carmichael, 526 U.S. 137, 152 (1999). As the proponents of expert testimony, plaintiffs bear the burden of establishing admissibility under Rule 702. Ralston v. Smith & Nephew Richards, Inc., 275 F.3d 965, 970 n.4 (10th Cir. 2001).

### **Factual Background**

Plaintiffs bring product liability claims on behalf of themselves and the estates of decedents, alleging that ice accumulation on the C208 series aircraft was a factor in various crashes.<sup>3</sup> Plaintiffs allege that Cessna and Goodrich negligently designed and/or manufactured the aircraft, so that it loses control while flying in icing conditions. Plaintiffs also allege that Cessna breached express and implied warranties and fraudulently disclosed data about the aircraft certification.

In 1956, the FAA created regulations for Delegation Option Authority (“DOA”). The DOA system allows the FAA to delegate to a qualified individual or organization matters related to the examination, testing and inspection of aircraft, before the FAA issues a type certificate.<sup>4</sup> In essence,

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<sup>3</sup> The lawsuits which are currently part of this MDL involve the model C208B. The C208 series includes the C208B and earlier models C208 and C208A.

<sup>4</sup> If the FAA finds that a proposed new type of aircraft comports with minimum safety standards, it signifies its approval by issuing a type certificate. United States v. S.A. Empresa de Viacao Aerea Rio Grandense (Varig Airlines), 467 U.S. 797, 807 (1984). If a certificated design  
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the DOA allows the aircraft manufacturer to fulfill a portion of the FAA's role in certifying the aircraft. The FAA, however, retains the ultimate authority and responsibility to certify an aircraft and issue a type certificate. In 1965, the FAA issued Cessna a DOA for the examination, testing and inspection of Cessna aircraft.

Generally, when an airplane flies through visible moisture in temperatures at or below freezing, ice can form on the forward facing surfaces. Aircraft icing reduces lift, increases drag and decreases thrust. With each of these effects, unless it descends to a lower altitude, the aircraft requires additional engine power to maintain airspeed.

To obtain FAA approval for flight into known or forecast icing conditions, engine and airframe manufacturers must satisfy complex certification standards and tests. Because of the hazard which icing poses to air safety, Federal Aviation Regulations ("FARs") impose strict limitations on the operation of aircraft in icing conditions and require that aircraft be specifically certified for such operation. See 14 C.F.R. § 91.527; 14 C.F.R. § 135.227; 14 C.F.R. § 121.341. Unless the aircraft has approved and functioning equipment which protects its forward facing surfaces and provides critical flight information, no pilot may fly into known or forecast moderate icing conditions under Instrument Flight Rules ("IFR") or into known light or moderate icing conditions under Visual Flight Rules ("VFR").<sup>5</sup> See 14 C.F.R. § 91.527(b). Except for aircraft which have certain ice

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<sup>4</sup>(...continued)

undergoes a major change, the FAA issues a supplemental type certificate if it approves the change. Id. The FAA certified the C208B through an amendment to FAA Type Certificate Data Sheet ("TCDS") A37CE, which was the original type certificate for the C208. See infra text, note 10.

<sup>5</sup> Aircraft operations are divided into two categories: flights conducted under IFR and flights conducted under VFR. See 14 C.F.R. §§ 91.151-91.159 (VFR); 14 C.F.R. §§ 91.167-91.193 (IFR). To operate under IFR, a pilot must undergo additional training and possess a current  
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protection systems or aircraft with transport category type certification, no pilot may fly an airplane into severe icing conditions – whether known or forecast. See 14 C.F.R. § 91.527(c); 14 C.F.R. § 121.341(c); 14 C.F.R. § 135.227(e).

The FAA has established airworthiness standards to certify ice protection systems that let pilots fly into known icing conditions. To obtain certification for “flight into known icing” conditions, a manufacturer must perform extensive engineering analysis to show the adequacy of the ice protection systems.<sup>6</sup> Also, it must perform flight tests to demonstrate that the aircraft is capable of operating safely in various types of icing conditions. For small airplanes such as the C208B, the icing certification requirements are contained in Part 23 of the FARs and Appendix C of Part 25. See 14 C.F.R. § 23.1419; 14 C.F.R. § 25, Appendix C.

Appendix C of Part 25 includes “icing envelopes” which define the parameters for safe operation of aircraft in maximum icing conditions. The icing envelopes are based on important cloud physics parameters such as cloud liquid water content, median size of cloud droplets, ambient air temperature and the interrelationship of these variables at different pressure altitudes and in different cloud types that contain ice and into which airplanes may be operated (i.e. cumulus or

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<sup>5</sup>(...continued)

instrument rating. See 14 C.F.R. §§ 61.3(e) and 61.65. An IFR-rated pilot may fly into weather conditions that prevent visual ground references. In IFR conditions, the pilot relies on radar for information about the presence of other aircraft. Under VFR, the pilot relies on the ability to visually see and avoid other aircraft.

<sup>6</sup> The FAA developed the “flight into known icing” standards based on research more than 40 years ago by the National Advisory Committee for Aeronautics (“NACA”), a predecessor to the National Aeronautics and Space Administration (“NASA”). NACA conducted extensive studies into actual icing conditions which commercial and military aircraft encountered in a wide range of operations.

stratus clouds).<sup>7</sup>

At the time the FAA certified the C208B, FAA Advisory Circular AC 20-73 provided guidance to aircraft manufacturers on standards for certification of ice protection systems. See Advisory Circular AC 20-73, Aircraft Ice Protection (April 21, 1971). Advisory Circular AC20-73 details how an aircraft manufacturer may apply FAA Document ADS-4 to certify an aircraft for flight into icing conditions, and was the standard which applied to the C208B.<sup>8</sup>

In 1986, FAA standards for ice protection certification required that an analysis “be performed to establish, on the basis of the airplane’s operational needs, the adequacy of the ice protection system.” They also required that tests of the ice protection system be conducted to demonstrate that the airplane was capable of operating safely in maximum icing conditions as described in Appendix C of Part 25. 14 C.F.R. § 23.1419 Amdt. 23-14, Eff. 12/20/73.<sup>9</sup> Because liquid water content and median size of cloud droplets cannot be scheduled, Appendix C includes an adjustment procedure for longer exposure distances to make up for difficult-to-find high liquid water content clouds. This method assures that the total liquid water content exposure of the

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<sup>7</sup> Because a pilot cannot directly determine whether icing conditions encountered in flight fall outside of the Appendix C icing envelopes, the C208 pilot operating handbook (“POH”) describes visual cues that might alert a pilot to icing conditions that should be avoided. These cues include heavy ice accumulation on the windshield and ice formation behind the curved section of the windshield or behind the protected surfaces of the wing struts.

<sup>8</sup> Analysis methods meeting FAA regulatory requirements are documented in FAA Document ADS-4. Airplane manufacturers use this data to determine airfoil impingement limits (i.e. where water droplets of varying size and water content would contact an airfoil of known configuration and then freeze) and criteria for protecting aircraft components against ice (including coverage of deicing boots on the forward facing surfaces of an airplane). These methods also estimate ice accumulation on unprotected portions of an airplane for evaluation in flight tests. BF Goodrich used this method to define impingement limits and boot coverage for the C208B.

<sup>9</sup> These standards changed after the FAA certified the C208B in 1986.

airplane is the same as Appendix C envelope values.

The FAA is responsible for issuing type certificates for new aircraft designs to manufacturers. After it has determined that a manufacturer has complied with the applicable FARs, the FAA issues a type certificate. For the 208B, Cessna demonstrated compliance through analysis and testing of both the C208B and an aerodynamically similar model (C208). As indicated on the flight test cards, the FAA participated on a number of icing flight tests. Under its DOA, Cessna's Executive Engineer informed the FAA that the C208B had met all applicable FARs including those for flight into known icing conditions. The FAA determined that Cessna had demonstrated compliance with all applicable airworthiness requirements for certification, including 14 C.F.R. § 23.1419 titled "Ice Protection."<sup>10</sup>

Before takeoff, the pilot in command is responsible for ensuring that critical airplane surfaces are free of frost, ice and snow.<sup>11</sup> The POH for the C208 contains the following warnings as to in-flight icing:

Pilots are advised to be prepared to divert the flight promptly if hazardous ice accumulations occur. . . . Whenever icing conditions are encountered, immediate action should be taken to leave these conditions.

An accumulation of one inch of ice on the leading edges can cause a large (up to 500 fpm [foot per minute]) loss in rate of climb, a cruise speed reduction of up to 40

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<sup>10</sup> The FAA certified the C208B through an amendment to FAA Type Certificate Data Sheet ("TCDS") A37CE, which was the original type certificate for the C208. The TCDS specifies that the certification basis for the aircraft is FAR Part 23 effective Feb. 1, 1965, as amended by Amendments 23-1 through 23-28.

<sup>11</sup> Federal regulations state that no pilot may take off in an airplane that has frost, ice or snow adhering to any propeller, wing or stabilizing or control surface. See 14 C.F.R. § 135.227. The C208 pilot operating handbook ("POH") and aircraft flight manual also advise against taking off with any form of frost, ice or snow on critical airplane surfaces (including the wings and horizontal stabilizers).

KIAS [knots indicated airspeed], as well as a significant buffet and stall speed increase (up to 20 knots). Even after cycling the deicing boots, the ice accumulation remaining on the unprotected areas of the airplane can cause large performance losses.

The POH also warns that the stall warning horn may not function if one inch of ice has accumulated and that “there may be little or no pre-stall buffet with heavy ice loads on the wing leading edges.”

In 1995, Cessna also developed and began offering a Safety Awareness Program for C208 operators. This program emphasizes the importance of promptly getting out of certain icing conditions because performance will progressively degrade if ice remains after repeated activation of the deicing boots. The program also instructs that pilots may need to use maximum continuous engine power to get out of icing conditions and counter degrading airspeeds.

Under Daubert and Rule 702 of the Federal Rules of Evidence, Cessna seeks to exclude the expert testimony of plaintiffs’ experts, Douglas R. Herlihy, Ronald Stearman, William R. Twa, Jr. and William J. Rieke.

### **Analysis**

Plaintiffs argue that the Court should defer ruling on these motions so that each transferor court can determine whether the testimony should be admitted. As explained in prior orders, part of this Court’s duty is to make evidentiary rulings on common issues. Pretrial rulings often may save time at trial, as well as save the parties time, effort and cost in preparing their cases. See United States v. Cline, 188 F. Supp.2d 1287, 1291 (D. Kan. 2002), aff’d, 349 F.3d 1276 (10th Cir. 2003). In an effort to provide guidance before trial, the Court makes its various findings and rulings.

#### **I. Motion To Exclude Testimony Of Douglas R. Herlihy**

##### **A. Herlihy’s Qualifications And Opinions**

Douglas R. Herlihy is a professional pilot, a forensic air safety investigator and a former



investigator for the National Transportation Safety Board (“NTSB”). See Expert Report of Douglas R. Herlihy, attached as Exhibit A-1 to Cessna Aircraft Company’s Memorandum In Support Of Its Motion In Limine to Exclude The Expert Testimony of Douglas R. Herlihy On The Subjects Of Dissimilar Aircraft Accidents And Aircraft Certification (Doc. #699) filed January 26, 2009, at 1. At the NTSB, Herlihy worked as operations group chairman for investigations on the National Go-Team in Washington, DC and as investigator in charge in the NTSB Field Office in Anchorage, Alaska. See id.

Herlihy opines that the C208 series does not comply with Appendix C of Part 25 with regard to flight into icing conditions, that the FAA should remove certification to fly into known icing conditions, that Cessna should voluntarily remove the C208 from operation in known icing conditions and that to get certification for the C208B, Cessna knowingly misrepresented the nature of the icing tests which it performed on the aircraft.<sup>12</sup>

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<sup>12</sup> In particular, Herlihy opines as follows:

Opinion 1 Remove all certification for flight in known icing, until the C208 Caravan series can be modified and equipped to comply with Appendix C of Part 25. In my opinion, the Caravan airplane cannot and does not currently possess the equipment or capability to satisfy Appendix C or to even fly safely with accretions of ice far less than those parameters. \* \* \*

Opinion 2 By order of AD 2007-10-15, the removal of authority to operate in regions other than light icing has, de facto, removed the Caravan’s “known icing” certification. Cessna, having DOA, with high regard for its product, needs to act responsibly and voluntarily remove the C208 series from operation in “known icing.” This action, in effect, would preempt additional mandatory limitations imposed following fatal icing-related crashes. History has a way of repeating itself, and the Caravan icing phenomena has not been solved. “Known icing” flights must be prohibited until the Caravan can be retrofitted and tested with effective detection and de-icing equipment. \* \* \*

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B. Analysis

Cessna seeks to exclude opinion testimony by Herlihy on (1) aircraft certification for flight into known icing conditions and (2) dissimilar aircraft accidents.

1. Qualifications Of Herlihy

In relevant part, Rule 702 provides that a witness who is qualified by knowledge, skill, experience, training or education may testify in the form of opinion or otherwise as to scientific, technical or other specialized knowledge. The Court must therefore determine whether Herlihy is qualified by “knowledge, skill, experience, training, or education” to render an opinion regarding C208B certification for flight into known icing conditions.

Herlihy opines that the C208B was not properly certified and that re-certification would reduce the number of icing-related accidents involving the aircraft. Plaintiffs maintain that even though Herlihy is not an expert on certification, he should be allowed to offer his opinions on certification from the perspective of an accident investigator and experienced pilot. The Court agrees. As an accident investigator at the NTSB, Herlihy was “aware of certification issues,” Herlihy Depo. at 103, and he understands certification concepts and findings of certification experts, see id. at 293-94 (in role as investigator in charge at NTSB, required to understand concepts and

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<sup>12</sup>(...continued)

Opinion 3 Natural icing test(s) for certification of the C208B were knowingly misrepresented as successful and valid tests. The requirement that all test parameters satisfy FAR 25 Appendix C should not have been ignored. It will never be known if the Caravan actually qualified for “known icing” certification inasmuch as the data-collecting (droplet measuring device) was inoperative. In my opinion, the anecdotal observation(s) of ice accretions during these tests are gross exaggerations of the actual experience.

Herlihy Report at 18-24.

Herlihy also opines on the Cessna pilot training program titled “Caravan Cold-Weather Operations” (Opinion 4) and lack of a stall warning on the C208 (Opinion 5). Cessna’s motion does not directly challenge these two opinions.

findings of aerodynamic and certification experts). Moreover, Herlihy primarily refers to certification standards such as Appendix C only to define certain icing conditions. Likewise, Herlihy refers to Cessna errors during flight tests such as estimating water droplet size rather than using actual measurements. Even though these alleged errors were part of testing for “certification,” Herlihy is able to opine on these issues as a trained accident investigator and pilot. See id. at 351-52 (not certification expert but as accident investigator, can read Appendix C requirements and determine that Cessna testing inadequate). The Court therefore overrules Cessna’s motion to exclude Herlihy’s testimony based on his qualifications.

## 2. Reliability Of Herlihy’s Methodology

Herlihy’s opinion 1 opines that the C208B cannot and does not satisfy Appendix C and cannot fly safely with accretions of ice far less than those parameters. Opinion 2 opines that the C208 series should be decertified or retrofitted and tested with effective detection and de-icing equipment. Opinion 3 opines that Cessna knowingly misrepresented that the certification icing tests for the C208B were successful and valid. In part, all three opinions rely on the fact that numerous C208B accidents occurred during icing conditions within Appendix C parameters. Herlihy notes that because many of these accidents involved highly qualified pilots, NTSB and FAA findings of “pilot error” are questionable. Herlihy also notes that Cessna’s certification testing was incomplete and used inaccurate estimated observations of icing conditions. Throughout his report, Herlihy relies on numerous NTSB and FAA findings about the C208 series.

Cessna argues that Herlihy’s methodology is not reliable. In determining whether an opinion or particular scientific theory is reliable, the Court may consider several nondispositive factors: (1) whether the proffered theory can and has been tested; (2) whether the theory has been subject to peer review; (3) the known or potential rate of error; (4) the general acceptance of a methodology

in the relevant scientific community. Daubert, 509 U.S. at 593-94. The Supreme Court has emphasized, however, that while a trial court may consider one or more of these factors, the test of reliability is flexible, and the Daubert factors do not necessarily or exclusively apply to all experts or every case. Kumho Tire, 526 U.S. at 141. Therefore, while a trial court should consider the specific factors identified in Daubert where they are reasonable measures of the reliability of expert testimony, id., the law does not require an expert to back his opinion with independent tests that unequivocally support his conclusions. See Bonner v. ISP Techs, Inc., 259 F.3d 924, 929 (8th Cir. 2001); Heller v. Shaw Indus., Inc., 167 F.3d 146, 155 (3d Cir. 1999).

As part of the pretrial evaluation, the trial court must also determine whether the expert opinion is based on facts that enable the expert to express a reasonably accurate conclusion as opposed to conjecture or speculation. Kieffer, 90 F.3d at 1499 (quoting Jones v. Otis Elevator Co., 861 F.2d 655, 662 (11th Cir. 1988)). The proponent of expert testimony must show a grounding in the methods and procedures of science which must be based on actual knowledge and not subjective belief or unaccounted speculation. Mitchell v. Gencorp, Inc., 165 F.3d 778, 780 (10th Cir. 1999). An expert's qualifications are relevant to the reliability inquiry. See United States v. Mitchell, 365 F.3d 215, 235 (3d Cir. 2004); United States v. Taylor, 154 F.3d 675, 683 (7th Cir.), cert. denied, 525 U.S. 1060 (1998); In re Indep. Serv. Org. Antitrust Litig., 85 F. Supp.2d 1130, 1163 (D. Kan. 2000).

Cessna argues that Herlihy's methodology in selecting icing-related accidents and reaching conclusions on the adequacy of the C208B icing certification does not meet the Daubert test for reliable expert testimony. Cessna first argues that Herlihy did not review all of the certification materials for the C208B and ignored certain FAR guidance materials. Cessna largely challenges Herlihy's conclusions on icing certification, however, and not his methodology in reaching those conclusions. Herlihy examined the same materials as an accident investigator – including accident

information, certification histories, documents from the manufacturer and transcripts of statements by FAA and Cessna employees. To the extent Cessna contends that Herlihy missed something in reviewing the certification histories, it can raise that issue through cross-examination or presentation of contrary evidence. See Daubert, 509 U.S. at 596.

Cessna next argues that Herlihy relied on inadmissible NTSB documents including safety recommendations and accident reports. Cessna has not shown that Herlihy has relied on these documents for more than factual information about various accidents. As the Court explained in a prior order, to the extent that factual information is not reasonably available elsewhere, Herlihy can rely on the NTSB documents for such information. See In re Cessna 208 Series Aircraft Prods. Liability Litig., 2009 WL 1140404, at \*4 (D. Kan. Apr. 27, 2009); Thomas Brooks v. Burnett, 920 F.2d 634, 647 (10th Cir. 1990); Mullan v. Quickie Aircraft Corp., 797 F.2d 845, 848 (10th Cir. 1986); Keen v. Detroit Diesel Allison, 569 F.2d 547, 549-51 (10th Cir. 1978) (trial court did not err in permitting NTSB accident investigator and FAA maintenance supervisor to testify about observations at accident scene and manner in which they conducted investigations).

Cessna maintains that Herlihy ignored the scientific method by reaching conclusions without testing, analysis or supporting data. In particular, Cessna criticizes Herlihy's methodology because he did not examine any individual accident in enough detail to determine the cause of a particular accident. As an accident investigator, however, Herlihy has employed an accepted methodology in evaluating multiple accidents involving the same model airplane to identify possible problems. Herlihy's methodology is similar to that he would employ in preparing an NTSB Safety Recommendation on a particular model airplane. See Herlihy Depo. at 141-42 (used same eclectic approach as NTSB operations group chairman relying on expertise of NTSB, depositions of FAA and Cessna employees, written materials from Cessna, NTSB recommendations in form of

airworthiness directives and FARs). The scientific method for an accident investigator evaluating a certain model airplane includes identifying certain types of accidents which have occurred in similar conditions. The fact that Herlihy has not exhaustively examined each individual accident to determine a precise cause goes to the weight of his opinion, not its admissibility. Again, Cessna has the opportunity through vigorous cross-examination or presentation of contrary evidence to show any weakness in Herlihy's conclusions. See Daubert, 509 U.S. at 596.

Cessna also argues that Herlihy has relied on prior accidents involving the C208 series without a showing of substantial similarity between those accidents and the accidents involved in this proceeding. Plaintiffs readily concede that at this stage, they do not have enough information to demonstrate substantial similarity and the particular cause of individual accidents. Because discovery in the MDL has been limited to common issues, plaintiffs have not had an opportunity to take discovery on the cause of individual accidents. In addition, Herlihy largely used the accidents as historical background (i.e. to show that a number of C208 accidents where a pilot lost control occurred in known or suspected icing conditions), not as a basis for his opinions about certification and the safety of the C208B.

For the above reasons, the Court overrules Cessna's motion to exclude the testimony of Herlihy on the subjects of aircraft certification and prior "icing-related" accidents.

## **II. Motion To Exclude Testimony Of Ronald Stearman**

### **A. Dr. Stearman's Qualifications And Opinions**

Dr. Ronald Stearman is an aerodynamic engineer who has published numerous articles on aerodynamic testing including wind tunnel testing. See Expert Report of Ronald Stearman, attached as Exhibit A-1 to Cessna Aircraft Company's Memorandum In Support Of Its Motion In Limine To Exclude The Expert Testimony Of Dr. Ronald Stearman (Doc. #725) filed January 30, 2009. Based

on wind tunnel studies, Dr. Stearman has presented several articles to the American Institute of Aeronautics and Astronautics (“AIAA”) on the subject of aircraft performance in icing conditions.<sup>13</sup>

Using a statistical tool called the Weibull reliability analysis, Dr. Stearman opines that the C208 exhibits an early failure mode (relative to the estimated product life of the aircraft) which indicates a problem in design or manufacturing.

Dr. Stearman also supervised the construction of two 1/10 scale C208 wind tunnel models to research possible icing scenarios that would lead to loss of stability and control. One model design was radio-controlled and could fly on a cable with limited free flight capabilities to demonstrate loss of stability and control due to simulated icing conditions. See Stearman Report at 3. The second model design was a rigid sting(rod)-mounted aerodynamic model where better stability and control derivatives could be measured and flow visualization studies conducted. Id.

The third model design was a full scale representation of the outer three feet of a C208 horizontal stabilizer tail and elevator assembly.<sup>14</sup> Id. at 4. Based on several wind tunnel tests, Dr. Stearman opined as follows: (1) when the C208 was in a climb position and had a simulated icing block on

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<sup>13</sup> See Woutijn J. Baars, Charles E. Tinney and Ronald O. Stearman, Higher-Order Statistical Analysis of Stability Upsets Induced By Elevator Horn Icing, American Institute of Aeronautics & Astronautics Paper 2009-3770, June 22-25, 2009, available at <http://www.ae.utexas.edu/facultysites/tinney> (follow “Publications” hyperlink); Claus W. Endruhn, Ronald O. Stearman & David B. Goldstein, High Order Statistical Signal Processing Studies On The Impact Of Icing On Aircraft Stability And Control Including Aeroelastic Effects, American Institute Of Aeronautics & Astronautics Paper May 1-4, 2006, attached as Exhibit 11 to Plaintiffs’ Response (Doc. #763); Marcus S. Kruger, Claus W. Endruhn & Ronald O. Stearman, A New Look At Galloping, American Institute Of Aeronautics & Astronautics, attached as Exhibit 12 to Plaintiffs’ Response (Doc. #763); see also Woutijn J. Baars, Ronald O. Stearman and Charles E. Tinney, Wind Tunnel Studies Employing Higher Order Statistics To Detect Icing Induced Upsets, Int’l Forum On Aeroelasticity & Structural Dynamics, Paper 2009-012 (2009), available at <http://www.ae.utexas.edu/facultysites/tinney> (follow “Publications” hyperlink).

<sup>14</sup> The elevator assembly is commonly called the elevator balance horn. Elevators are moveable control surfaces located at the rear of the aircraft’s horizontal tail that can deflect up or down and are used to control the up and down movement of the aircraft nose.

the bottom of the elevator balance horn, it resulted in a violent upset of tail and wing rock which the pilot could not control; (2) when simulated icing blocks were removed from the elevator horn and placed on the unprotected stabilizer shield just ahead of the elevator balance horn, a similar upset of tail and wing rock occurred when the aircraft was in the climb position; and (3) the instability caused by these icing conditions could be controlled by aerodynamic chines (rain gutters over the back doors on both sides of the fuselage), but when the chines iced up, the same cross flow instability occurred. See id. at 40-41.

B. Analysis

1. Weibull Reliability Analysis

Using a statistical tool called the Weibull reliability analysis,<sup>15</sup> Dr. Stearman opines that the C208 series exhibits an early failure mode which indicates a design or manufacturing problem. Dr. Stearman based his Weibull analysis on the age (in hours) of the aircraft at the time of an accident in known or suspected icing conditions. He used three different lists of C208 accidents which plaintiffs' attorneys provided to him. Cessna argues that Dr. Stearman's methodology is unreliable because in determining the life expectancy of the C208, he considers only C208 aircraft which crashed, not all C208 aircraft.

The accuracy of any prediction is directly proportional to the quality, accuracy and completeness of the supplied data. See Declaration of Wayne Nelson ¶ 8, attached as Exhibit D to

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<sup>15</sup> The Weibull analysis is a statistical analysis used to quantify the reliability of a product and to estimate the life expectancy of a product. The Weibull hazard (failure) function for most machines is a bathtub curve: very early during the life of a machine, the rate of failure is relatively high (so called infant mortality or burn-in period); after all components settle and electronic parts are burned in, the failure rate is relatively constant and low (useful life period); finally, after some time in operation, the failure rate begins to gradually increase until all components or devices have failed (wear-out period). See Process Analysis, [www.statsoft.com/textbook/stproc.html](http://www.statsoft.com/textbook/stproc.html); Stearman Report at 14.



Cessna's Memorandum (Doc. #725). To accurately use a Weibull reliability analysis, one must define the population of interest and ensure that the data is truly representative of the population. See id.; see also ReliaSoft Corporation, Data Classification, available at <http://www.weibull.com/LifeDataWeb/lifedataweb.htm>. Here, Dr. Stearman has used only data from known or suspected icing conditions. Based solely on how many flight hours an aircraft had accrued at the time of an accident, Dr. Stearman concludes that the C208 had a statistically "early failure" (relative to the estimated product life) which suggests a design or manufacturing problem in the entire fleet of C208 planes. For reasons stated below, Dr. Stearman's selection of data for his Weibull analysis is fundamentally flawed.

When analyzing life data using the Weibull analysis, one must account for situations in which the entire population has not failed (i.e. the event of interest – an accident in icing conditions – was not observed). See Nelson Decl. ¶¶ 10-11. Data for C208 planes which did not crash in known or suspected icing conditions are referred to as right censored or suspended data. See Nelson Decl. ¶¶ 12-13. Plaintiffs acknowledge that data for a Weibull life analysis is "usually censored or incomplete in some way," Plaintiffs' Response (Doc. #763) at 25 (quoting Nelson, Applied Life Data Analysis at 1), but they do not explain how Dr. Stearman's analysis is reliable without accounting for censored or incomplete data.<sup>16</sup>

In a linguistic twist of statistical terms, plaintiffs characterize a fatal aircraft accident as a random event and therefore conclude that Dr. Stearman's sample "population was randomly selected." Plaintiffs' Response (Doc. #763) at 26; id. (sample of 19 crashes of C208 involving icing conditions truly random sample); id. at 27 (ample data from Cessna accident reports to constitute

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<sup>16</sup> Plaintiffs argue that data on C208 aircraft that have not failed is not available. Plaintiffs have not explained, however, how Dr. Stearman's Weibull analysis is meaningful or reliable without such data.

“viable random population”). Basic statistical principles belie plaintiffs’ assertion. The statistical assumption that a sample is truly representative of the population must be satisfied in all analyses. See Nelson Decl. ¶ 8. By limiting the total “sample size” or “population” to failed units, Dr. Stearman’s Weibull analysis is not meaningful. See id., ¶¶ 6-15. In essence, Dr. Stearman’s analysis assumes that all C208 will crash in known or suspected icing conditions because all of them did so in his “sample” or “population.” Plaintiffs note that Dr. Stearman performed the life data analysis “to determine the life expectancy of a product as an indication of [a] potential design or manufacturing defect.” Plaintiffs’ Response (Doc. #763) at 24. To draw conclusions on a design or manufacturing problem in the entire C208 fleet, however, Dr. Stearman must either (1) use a data set which includes the entire C208 fleet or (2) use a data set which randomly selects aircraft from the entire C208 fleet. See Nelson Decl. ¶¶ 6-15. Accordingly, Dr. Stearman’s use of the Weibull analysis is not reliable. The Court therefore sustains Cessna’s motion in limine as Dr. Stearman’s opinions based on his use of the Weibull reliability analysis.

## 2. Wind Tunnel Testing And Dutch Roll Instability Analysis

Cessna argues that Dr. Stearman’s methodology in using wind tunnel testing is not reliable. In particular, Cessna maintains that (1) the scale model is not representative of the C208B, (2) the Pickle Wind Tunnel is not of acceptable research quality; (3) the wind tunnel cable suspension system exerted destabilizing forces on the model; (4) the radio control pilot introduces movement of the model which is not accounted for; (5) the size and location of the simulated ice shapes on the model are unsubstantiated; and (6) Dr. Stearman and his colleagues did not use precise instruments to record certain data and did not retain all videos of the wind tunnel tests.

Since 1971, the FAA has recognized the accuracy of wind tunnel testing related to airplane de-icing systems. See FAA Advisory Circular 20-73, April 21, 1971 (icing tunnel tests perhaps least

expensive and most accurate method for determining performance of icing system under various conditions), attached as Exhibit 9 to Plaintiffs' Response (Doc. #763). Dr. Stearman is highly qualified and has supervised numerous wind tunnel tests. In large part, Cessna argues that its actual flight testing of the C208B is more reliable than Dr. Stearman's wind tunnel studies. Dr. Stearman has used a different, but not necessarily unreliable, methodology to form his opinion. Cessna's objections go to the weight and credibility of Dr. Stearman's testimony, not its admissibility. Vigorous cross-examination, presentation of contrary evidence and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence. Daubert, 509 U.S. at 596; see Quiet Tech. Dc-8, Inc. v. Hurel-Dubois UK Ltd., 326 F.3d 1333, 1341 (11th Cir. 2003) (Daubert does not permit district court to evaluate credibility of opposing experts and persuasiveness of competing scientific studies); In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 744 (3d Cir. 1994) (grounds for expert opinion merely have to be good, not perfect), cert. denied, 513 U.S. 1190 (1995). For these reasons, the Court overrules Cessna's motion in limine as to Dr. Stearman's opinions related to wind tunnel testing and tail and wing rock (also referred to as Dutch Roll instability) analysis.

### **III. Motion To Exclude Expert Testimony Of William R. Twa, Jr.**

#### **A. Twa's Qualifications And Opinions**

William R. Twa, Jr. is an aerospace engineer with extensive experience in the FAA certification process for helicopter engines.<sup>17</sup> From 1987 through 1993, Twa changed and authored

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<sup>17</sup> In 1960, Twa earned a B.S. degree in aeronautics with a major in aircraft maintenance engineering. Twa has some experience with fixed wing aircraft, but that experience is unrelated to certification for flight in icing conditions. From 1961 to 1963, Twa participated in certain design changes, test plans and reports involving the B-58 supersonic jet bomber. In 1985, Twa worked as an aerospace engineer who reviewed and approved engineering change proposals related to the fixed wing P-3 Orion anti-submarine aircraft.

the FAA's Federal Aviation Regulations, 14 C.F.R. Parts 27 and 29, and Advisory Circular material for rotorcraft (helicopter) propulsion systems. Regarding this case, Twa tenders the following opinions:

1. Cessna's Use of Its DOA

Opinion 1 is that in discovery, Cessna produced certain DOA manuals which are non-responsive to plaintiffs' request for production as to the specific authority which they used to certify the C208B. Opinions 2 and 3 are that under its DOA authority, Cessna – not the FAA – certified the C208B. Opinions 4 and 5 are that Cessna has not carried out the responsibilities of its DOA and should correct the C208B design problems for flight into FAR Part 25 Appendix C icing conditions. Opinion 6 is that Cessna has violated various FARs because it has not made required design changes to correct the stall warning system on the C208B.

2. Cessna's Type Certification Testing

Opinion 7 is that in FAA Type Certificate Data Sheet A37CE, Cessna falsely claims that it has demonstrated compliance with 14 C.F.R. § 23.1419. Opinion 8 is that Cessna did not demonstrate compliance with Section 23.1419(c) and has not shown “aerodynamic similarity” between the C208B and the prior models C208 and C208A. Opinion 9 is that the C208B is not “aerodynamically similar” to the C208 or C208A. Opinion 10 is that the C208B does not comply with the icing certification requirements in Section 23.1419.

Opinions 11 and 15 are that the C208B does not meet the design and certification requirements of FAR Part 23, §§ 23.141 through 23.253 and cannot be safely flown by a single pilot in continuous maximum and intermittent maximum icing conditions. Opinions 12 through 14 are that the leading edge impingement analysis which BF Goodrich performed, and Cessna accepted, was flawed because it did not (1) establish the adequate amount of deicing boot surface needed on

the leading edge surfaces of the C208B; (2) consider a “descent” condition; and (3) consider larger drop diameter sizes and how that would affect boot size requirements. Opinions 16 and 17 are that Cessna did not conduct flight tests to validate the BF Goodrich tests or completely identify the elevator “pumping” phenomenon which test pilots encountered during dry air icing evaluations.

3. C208 Pilot Operating Handbook (“POH”)

Opinions 18 through 20 are that the C208B POH is misleading and gives pilots incorrect information and procedures for flying in icing conditions. In particular, Opinion 19 is that the POH does not adequately instruct pilots on how to get the C208 out of icing conditions. Opinion 21 is that the C208B does not comply with the applicable FARs and is not airworthy.

B. Analysis

Rule 702 provides that a witness who is qualified by knowledge, skill, experience, training or education may testify in the form of opinion or otherwise as to scientific, technical or other specialized knowledge. Cessna argues that Twa is not qualified to opine on (1) Cessna’s use of its DOA (Opinions 1-6); (2) aircraft certification for flight in icing conditions (Opinions 7-17); or (3) the POH for the C208B (Opinions 18-21).

1. Cessna’s Use of Its DOA

Cessna argues that Twa is not qualified to offer opinions on Cessna’s use of its DOA. Twa is experienced as a designated engineering and airworthiness representative of the FAA, however, and he has experience in reviewing applications for designated engineering representatives for the FAA. He therefore has general familiarity with the DOA concept. He is qualified to opine whether in obtaining certification of the C208B, Cessna properly complied with the procedural aspects of its DOA. Such testimony would help the jury understand a DOA and the extent of FAA involvement in that process. Accordingly, Twa will be permitted to testify about a DOA and

whether Cessna properly complied with the procedural requirements of its DOA. For reasons stated below, however, the Court excludes any opinion whether Cessna complied with DOA technical requirements which do not also apply to helicopters.<sup>18</sup>

## 2. Cessna's Type Certification Testing

Cessna next argues that the Court should exclude Twa's opinions which relate to certification of the C208 for flight in icing conditions because his experience in certification of aircraft is limited to helicopters. Plaintiffs respond that Twa only addresses whether Cessna properly performed and documented the steps which it was required to complete before the aircraft could be certified, not the "engineering or physics behind the testing necessary to certify an aircraft such as the 208B." Plaintiffs' Response (Doc. #762) at 6; see also id. at 20 (Twa does not opine on aerodynamic qualities of 208B or physics or operation of 208B). A portion of Twa's opinions do relate to Cessna's procedural compliance with certain regulations such as the lack of full documentation for a certain test. See, e.g., Twa Report at 2 (test documentation not included); id. at 8 (Cessna did not produce required "certification plan"). The fact that Twa's experience lies in helicopter engines does not affect the admissibility of his opinions on these procedural issues. As with the DOA, Twa will be permitted to testify about certification generally and whether Cessna properly complied with the procedural requirements for certification.

A portion of Twa's opinions go to substantive rather than procedural compliance with the icing certification requirements. Twa's experience in aircraft certification relates solely to helicopter engines. Because Twa does not have experience or education related to certification of fixed wing

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<sup>18</sup> Twa bases his opinions on both procedural and technical requirements, and some of his technical opinions may be admissible if they relate to requirements which also apply to helicopters. For these reasons, the Court generally defines the permissible scope of Twa's trial testimony without attempting to parse line-by-line the "technical" as opposed to the "procedural" material throughout his 29-page report.

aircraft, his opinions on Cessna's compliance with technical requirements of certification are beyond his expertise unless they also apply to helicopter certification.<sup>19</sup> The Court therefore excludes Twa's testimony on technical subjects which address the engineering or physics of the C208B. See, e.g., Opinion 5 (Cessna should correct 208B "design problems"); Opinion 9 (C208B not "aerodynamically similar" to C208 or C208A); Opinion 11 (C208B cannot be safely flown by single pilot in continuous maximum and intermittent icing conditions); Opinion 15 (pneumatic de-ice boots do not satisfactorily permit pilot to operate C208B in continuous maximum and intermittent maximum icing conditions); Opinion 17 (Cessna failed to conduct adequate flight tests to completely identify elevator pumping phenomenon and to incorporate useful information from such tests into POH); Opinion 21 (C208B is continuing to fly in unairworthy condition).

Plaintiffs argue that Twa's focus on helicopters is irrelevant because the "FAR[s] a manufacturer must meet are identical whether the aircraft in question is fixed wing, helicopter, or a balloon." Plaintiffs' Response (Doc. #762) at 12. Under plaintiffs' theory, an expert in the certification of a hot air balloon, see 14 C.F. R. Part 31 (standards for manned free balloons), is qualified to opine on all aspects of airplane and helicopter certification because all three are "aircraft." The FARs do include airplanes, helicopters and balloons as aircraft, see 14 C.F.R. § 1.1, but plaintiffs incorrectly assert that all standards under 14 C.F.R., Supchapter C apply equally to all aircraft. See Plaintiffs' Response (Doc. #762) at 10. The certification procedures for the various types of aircraft may be similar, but depending on the type of aircraft, the airworthiness standards are distinct: Part 23 covers normal category airplanes such as the C208B, Parts 25 and 26 cover

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<sup>19</sup> Twa has some experience with fixed wing aircraft, but that experience is unrelated to icing certification. Twa participated in certain design changes, test plans and reports involving the B-58 supersonic jet bomber (1961 to 1963) and he worked as an aerospace engineer who evaluated the fixed wing P-3 Orion anti-submarine aircraft (few months in 1985).

transport category airplanes; Part 27 covers normal category rotorcraft (helicopters); Part 29 covers transport category rotorcraft (helicopters) and Part 31 covers manned free balloons. To the extent the standards for airplanes and helicopters are the same, Twa may offer testimony on Cessna's compliance with those standards.

Plaintiffs argue that Twa's lack of specialization in fixed wing aircraft goes to the weight but not the admissibility of his opinion. See Plaintiffs' Response (Doc. #762) at 10 (citing Ralston, 275 F.3d at 970 and Wheeler v. John Deere Co., 935 F.2d 1090, 1100 (10th Cir. 1991)). As a precondition, however, an expert must stay "within the reasonable confines" of his subject area. Ralston, 275 F.3d at 970. Where alleged expertise with regard to other aspects of a field gives a proffered expert no special insight into the issues of the case, such alleged expertise does not qualify the witness as an expert. Vigil v. Burlington N. & Santa Fe Ry. Co., 521 F. Supp.2d 1185, 1204 (D.N.M. 2007); see Milne v. USA Cycling Inc., 575 F.3d 1120, 1133-34 (10th Cir. 2009) (experience organizing and supervising paved road bike races insufficient to qualify expert to testify about mountain bike races); Ralston, 275 F.3d at 970 (merely possessing medical degree insufficient to permit testimony concerning any medical-related issue; orthopedic surgeon and oncologist not qualified to testify about warnings concerning intramedullary nailing device used to hold together pieces of fractured bones); Broadcort Capital Corp. v. Summa Med. Corp., 972 F.2d 1183, 1194-95 (10th Cir. 1992) (attorney with "some education and training in the field" not qualified as expert in securities); Bertotti v. Charlotte Motor Speedway, Inc., 893 F. Supp. 565, 569-70 (W.D.N.C. 1995) (experience in automobile racing insufficient to qualify expert to testify regarding design of go-kart track). Plaintiffs have not shown that Twa's general familiarity with helicopter FARs is sufficient to permit him to testify about the technical aspects involved in certifying fixed wing airplanes for flight into icing conditions.



Finally, Cessna argues that Twa's methodology is unreliable because (1) he considered incorrect data such as post-certification regulations, (2) he did not consider other relevant materials and (3) he is not familiar with certain technical terms used in icing certification. Because the Court finds that Twa is not qualified to offer opinions on Cessna's compliance with technical requirements of DOA or certification which do not also apply to helicopters, Cessna's reliability arguments appear to be moot.

3. C208 POH

Plaintiffs do not address Twa's lack of expertise in drafting POHs, and Cessna's argument on this point is well taken. See Twa Depo. at 386 (to determine appropriate content of POH, one should be experienced and skilled in writing such handbooks). The Court therefore excludes Opinions 18 through 20 related to POH contents. Opinion 21 is listed under the title C208B POH, but it appears to relate more closely to "Cessna's Type Certification Testing." The Court therefore does not exclude Opinion 21.

For the above reasons, the Court sustains in part Cessna's motion in limine to exclude the expert testimony of William R. Twa, Jr.

**IV. Motion In Limine To Exclude Testimony Of Rieke**

A. Rieke's Qualifications And Opinion

William J. Rieke served as a pilot (1981-96), chief pilot (1997-98) and chief of flight operations (1998-2007) for NASA. During his tenure at NASA, Rieke was a pilot during tests of various aircraft in icing conditions.<sup>20</sup> Rieke currently is an air safety consultant.

Rieke opines as follows:

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<sup>20</sup> Before working at NASA, Rieke was a pilot on a U.S. Navy Carrier (1968-72), a corporate pilot for Standard Oil Company (1973-77) and U.S. Air Force Reserve pilot (1978-80).

1. The Cessna 208 series has low power to weight and is a poor candidate for flight into known icing conditions. This factor is significant and critical . . . \* \* \*
2. \* \* \* Cessna conducted limited flight tests in natural icing conditions, and did so with an inoperative droplet size measuring device (Forward Scattering Spectrometer Probe). Establishing droplet size is a critical factor in determining compliance with FAR 25, Appendix C. Estimations of droplet size, as Cessna did, are unacceptable. \* \* \*
5. The position of Cessna that droplet sizes above 15 microns are difficult to find is not correct . . . Cessna failed to use available resources to ensure compliance with FAR 25 Appendix C. \* \* \*
8. \* \* \* The lack of a reasonable and acceptable approach to certification of this aircraft . . . should require re-certification . . . for flight into known icing conditions.

Rieke Report at 1-3.

Cessna seeks to exclude Rieke's testimony on aircraft certification in icing conditions under Daubert and Rule 702 of the Federal Rules of Evidence.

B. Analysis

Cessna argues that Rieke is not qualified to offer opinions on certification of the C208B for flight into known icing conditions. Rieke readily concedes that he is not qualified to opine whether the C208B met certification requirements. See Rieke Depo. at 163, 179, 268, 274, 279, 281-84. Plaintiffs note that Rieke is not a certification expert, however, and that they retained him to testify on Cessna's flight testing of the C208B, not how that data was applied to the various FARs to determine certification. See MDL Plaintiffs' Response in Opposition To Defendant Cessna Aircraft Company's Motion In Limine To Exclude The Expert Testimony Of William J. Rieke (Doc. #818) filed March 23, 2009 at 7 (retained to testify whether Cessna properly performed flight testing of C208B and what testing revealed or should have revealed to Cessna); id. at 13 (opinions all relate to Cessna's flight testing of C208B and procedures used during testing); id. at 15 (opinions relate to reasonableness of Cessna's flight testing on C208B performance in icing, not how data was

applied to FARs); see also Rieke Depo. at 192 (will offer opinions on flight tests and pilot actions, aircraft performance, handling under icing conditions, tail plane stall, loss of lift from ice shapes). For the most part, Rieke's report is limited to these subjects and whether a reasonable manufacturer would have relied on the testing data of the C208B performance in icing conditions. In isolated portions of his report, Rieke opines on whether the C208B was properly certified under the various federal regulations, an opinion which he admits is beyond his expertise. See Rieke Depo. at 163, 179, 268, 274, 279, 281-84.

Rieke may testify that Cessna did not use reasonable test procedures and that it did not act reasonably in light of the testing which it conducted, but he is not qualified to opine whether that testing complied with federal regulations on icing certification. The Court therefore sustains Cessna's motion in limine as to Rieke's opinions whether the C208B was properly certified and whether re-certification would eliminate the potential dangers which he has identified in his report. In particular, the Court excludes Rieke's opinion that (1) "Establishing droplet size is a critical factor in determining compliance with FAR 25, Appendix C," Opinion 2; (2) "the requirement to fly intermittently in 50 microns [median size of cloud droplets] (a requirement of FAR 25 Appendix C) was not addressed satisfactorily by Cessna and did not comply with certification requirements," Opinion 4; (3) "Cessna failed to use available resources to ensure compliance with FAR 25 Appendix C," Opinion 5; and (4) "The lack of a reasonable and acceptable approach to certification of this aircraft, which incorporates a low thrust to weight and a high drag airframe, should require re-certification of the aircraft for flight into known icing conditions," Opinion 8.<sup>21</sup>

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<sup>21</sup> In other sections of his report, Rieke refers to Appendix C, but only to define certain icing conditions. Rieke appears eminently qualified to determine whether a certain test flight was conducted in "Appendix C icing conditions" based on ambient temperature, pressure altitude and other factors. See Rieke Report, Opinion 1 (experience flying into sustained icing conditions within (continued...))

Plaintiffs seek leave of court to file a surreply, but they offer no explanation why a surreply is necessary.<sup>22</sup> Under D. Kan. Rule 7.1, parties are permitted file a motion, a response and a reply. Surreplies are typically not allowed. See Metzger v. City of Leawood, 144 F. Supp.2d 1225, 1266 (D. Kan. 2001). Surreplies are permitted in rare cases, but not without leave of court. Humphries v. Williams Natural Gas Co., Case No. 96-4196-SAC, 1998 WL 982903, at \*1 (D. Kan. Sept. 23, 1998). A nonmoving party should be given an opportunity to respond to new material raised for the first time in a reply brief. Green v. New Mexico, 420 F.3d 1189, 1196 (10th Cir. 2005). Here, plaintiffs have not identified any new material which Cessna presented in its reply. The Court therefore finds that plaintiffs are not entitled to file a surreply. In any event, the arguments in plaintiffs' proposed surreply would not alter the Court's ruling on Cessna's motion.

**IT IS THEREFORE ORDERED** that Cessna Aircraft Company's Motion In Limine To Exclude The Expert Testimony of Douglas R. Herlihy On The Subjects Of Dissimilar Aircraft Accidents And Aircraft Certification (Doc. #698) filed January 26, 2009 be and hereby is

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<sup>21</sup>(...continued)

FAR 25 Appendix C and beyond); Opinion 2 (ice may accrete on protected area in Appendix C icing conditions); Opinion 8 (aircraft not acceptable for flight in icing conditions defined in FAR 25 Appendix C). Likewise, Rieke refers to tests "during certification" or tests and procedures used to "certify" the 208B aircraft. See Rieke Report, Opinions 7, 8. At this point, the Court declines to exclude such opinions because Rieke refers to certification in these instances only to explain when Cessna conducted the tests. In these instances, he opines on the adequacy or reasonableness of the tests, not whether those tests satisfied FARs.

<sup>22</sup> Plaintiffs apparently seek leave to file a surreply to offer the 13-page supplemental declaration of Rieke, see Supplemental Declaration Of William J. Rieke In Opposition Of Cessna's Motion In Limine, attached as Exhibit B to MDL Plaintiffs' Surreply To Cessna's Motion In Limine To Exclude the Testimony Of William J. Rieke (Doc. #864), but they do not explain why Rieke could not have included such information in his original 9-page declaration filed in opposition to Cessna's motion. See Declaration Of William J. Rieke In Opposition Of Cessna's Motion In Limine, attached as Exhibit C to MDL Plaintiffs' Response in Opposition To Defendant Cessna Aircraft Company's Motion In Limine To Exclude The Expert Testimony Of William J. Rieke (Doc. #818).

**OVERRULED.**

**IT IS FURTHER ORDERED** that MDL Plaintiffs' Motion For Oral Argument And Evidentiary Hearing On Motion In Limine To Exclude Expert Testimony Of Douglas R. Herlihy (Doc. #871) filed May 26, 2009 be and hereby is **OVERRULED**.

**IT IS FURTHER ORDERED** that Cessna Aircraft Company's Motion In Limine To Exclude The Expert Testimony Of Ronald Stearman (Doc. #724) filed January 30, 2009 be and hereby is **SUSTAINED in part**. The Court disallows any expert opinion based on the Weibull reliability analysis, see Stearman Expert Report at 13-19.

**IT IS FURTHER ORDERED** that Cessna Aircraft Company's Motion In Limine To Exclude Testimony Of William R. Twa, Jr. (Doc. #674) filed January 6, 2009 be and hereby is **SUSTAINED in part**. The Court excludes any expert opinion on (1) Cessna's compliance with technical requirements of Delegation Option Authority or certification unless they also apply to helicopter certification and (2) the Pilot Operating Handbook for the C208B.

**IT IS FURTHER ORDERED** that MDL Plaintiffs' Motion For Oral Argument And Evidentiary Hearing On Motion In Limine To Exclude Expert Testimony Of William R. Twa (Doc. #873) filed May 26, 2009 be and hereby is **OVERRULED**.

**IT IS FURTHER ORDERED** that Cessna Aircraft Company's Motion In Limine to Exclude The Expert Testimony of William J. Rieke On The Subjects Of Aircraft Certification For Flight Into Known Icing Conditions (Doc. #700) filed January 26, 2009 be and hereby is **SUSTAINED in part**. The Court will disallow expert opinion that Cessna testing did not comply with federal regulations on icing certification and that re-certification would eliminate the potential dangers identified in his report.

**IT IS FURTHER ORDERED** that MDL Plaintiffs' Motion For Leave To File A Surreply

To Defendant Cessna's Reply In Support Of Its Motion In Limine To Exclude The Testimony Of William J. Rieke (Doc. #863) filed May 5, 2009 be and hereby is **OVERRULED**.

**IT IS FURTHER ORDERED** that MDL Plaintiffs' Motion For Oral Argument And Evidentiary Hearing On Motion In Limine To Exclude Expert Testimony Of William J. Rieke (Doc. #869) filed May 22, 2009 be and hereby is **OVERRULED**.

Dated this 9th day of November, 2009 at Kansas City, Kansas.

s/ Kathryn H. Vratil \_\_\_\_\_  
KATHRYN H. VRATIL  
United States District Judge